10AE11



Time: 3 Hours

VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST College with Potential for Excellence

Residential & Autonomous – A Gurukula Institute of Life-Training Re-accredited (3rd Cycle) with 'A' Grade (CGPA 3.59 out of 4.00) by NAAC [Affiliated to Madurai Kamaraj University]

B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part - III: Ability Enhancement Course: First Semester: Paper - I

DISCRETE MATHEMATICS

Under CBCS and LOCF – Credit 5

Max. Marks: 75

<u>SECTION – A</u> Answer ALL Questions

$(10 \times 1 = 10)$

1. Let $R = \{(3, 3), (6, 6), (9, 9), (12, 12), (3, 6), (6, 3), (3, 9), (9, 3), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9, 12), (9,$ (12,9)} be a relation on the set A= {3, 6, 9, 12}. The relation is _ a) reflexive and transitive b) reflexive and symmetric c) symmetric and transitive d) equivalence relation 2. If $A = \{p,q,r,s\}$, $B = \{r,s,t,u\}$, then $A \setminus B$ is a $\{p,q\}$ b $\{t,u\}$ c (r,s) d {p,q,r,s} 3. If A and B are square matrices such that AB= I and BA= I, then B is a) Unit matrix b) Null matrix c) Multiplicative inverse matrix of A d) - A $\begin{pmatrix} 2 \\ -1 \end{pmatrix} = (20)$, then the value of x is 4. If (5 x 1) a) 7 d)0 b)-7 c)1/75. A product of the variables and their negations in a formula is called a) elementary product b) elementary sum c) CNF d) DNF 6. A formula consisting of disjunctions of min-terms is called a) DNF b) CNF c) PDNF d) PCNF 7. _____ giving the rule for finding its value at an integer from its values at smaller integer. a) Recursion b) Recursive c) Recurrence d) Function 8. _____is used in mathematical logic and computer science. b) Structural Induction a) Transfinite numbers c) Transfinite recursion d) Transfinite induction

9. A path of a graph is said to be _____ if it contains all the edges of the graph.

a) eulerianb) Hamiltonianc) Tournamentd) planar10. Hamilton cycle is a cycle that contains every ______ of G.a) pathb) cyclec) vertexd) edge

<u>SECTION – B</u>

Answer any FIVE Questions

 $(5 \times 2 = 10)$

11. What is discrete mathematics?

12. Let A=B=X={1,2,3,4,5,6}. Define R as < on X.

13. Define matrix.

14. Write down rectangular and square matrices.

15. Write down basic logic operators.

16. By using mathematical induction prove that the given equation is true

for all positive integers. $2+4+6+\ldots+2n = n (n+1)$

17. Define simple graph.

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

19. a) Find the values of x, y, z and a which satisfy the matrix equation

$$\begin{pmatrix} x+3 & 2y+x \\ z-1 & 4a-6 \end{pmatrix} = \begin{pmatrix} 0 & -7 \\ 3 & 2a \end{pmatrix}$$
[OR]
b) If A = $\begin{pmatrix} 1 & 2 \\ -1 & 3 \end{pmatrix}$ and B = $\begin{pmatrix} 2 & 1 \\ 1 & 1 \end{pmatrix}$ find AB and BA

20. a) Let p: Jupiter is a planet and q: India is an island be any two simple statements. Give verbal sentence describing each of the following statements.

i)
$$\neg p$$
 ii) $p \lor \neg q$ iii) $\neg p \lor q$ iv) $p \rightarrow \neg q$ v) $p \leftrightarrow q$
[OR]

b) Determine the truth value of each of the following statements i) If 6 + 2 = 5, then the milk is white.

ii) China is in Europe or $\sqrt{3}$ is an integer

iii) It is not true that 5 + 5 = 9 or Earth is a planet

- iv) 11 is a prime number and all the sides of a rectangle are equal.
- 21. a) What is Recursion? Explain.

[**OR**]

b) Find the recursive formula for the sequence 3, 6, 12, 24, 48, 96.

22. a) If the distance d(u, v) between two vertices u and v that can be connected by a path in a graph is defined to be the length of the shortest path connecting them, then prove that the distance function satisfies the triangle inequality: $d(u, v) + d(v, w) \ge d(u, w)$.

b) Consider the sequence 01110100 as being arranged in a circular pattern. Notice that every one of the eight possible binary triples: 000, 001, 011, .

..., 111 appear exactly once in the circular list. Can you construct a similar list of length 16 where all the four binary digit patterns appear exactly once each? Of length 32 where all five binary digit patterns appear exactly once?

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

23. Using the principle of mathematical induction, prove that

$$1^2 + 2^2 + 3^2 + \dots + n^2 = (1/6) \{n(n+1)(2n+1)\}$$
 for all $n \in \mathbb{N}$.

24. Using the Cayley Hamilton Theorem find A^{-1} if $A = \begin{pmatrix} 1 & 4 \\ 3 & 2 \end{pmatrix}$

- 25. Construct a truth table for the formula $\neg P \land (P \rightarrow Q)$
- 26. Using the principle of mathematical induction, prove that

 $1.3 + 3.5 + 5.7 + \dots + (2n - 1)(2n + 1) = (1/3)\{n(4n^2 + 6n - 1).$

27. How do you measure the similarity or distance between two vertices in a graph?

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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part - III: Ability Enhancement Course: Third Semester: Paper - I

OPERATIONS RESEARCH

Under CBCS and LOCF - Credit 5

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions

 $(10 \times 1 = 10)$

- 1. A feasible solution of LPP
- a) Must satisfy all the constraints simultaneously
- b) Need not satisfy all the constraints, only some of them
- c) Must be a corner point of the feasible region
- d) all of the above
- 2. In Degenerate solution value of objective function
- a) increases infinitely b) decreases infinitely
- c) basic variables are nonzero d) One or more basic variables are zero
- 3. Linear inequalities are graphically represented on Cartesian plane by a
- a) negative full space b) closed half space c) open half space
 - d) positive full space

are the linear equations or inequalities arising out of 4.

practical limitations

- b) restrictions a) constants c) constraints
 - d) Functions

5. To formulate a problem for solution by the simplex method, we must add

artificial Variable to

a) only equality constraints	b) only > constraints
c) both A & B	d) None of these

6. In simplex method, feasible basic solution must satisfy	the
------------------------------------------------------------	-----

a) non-negativity constraint b) negativity constraint c) basic constraint d) common constraint

7. Transportation problem is a special class of

a) LPP

c) none of the two.

d) both 1 and 2

8. The ______ method's solution for transportation problem is sometimes an optimal solution itself.

b) Assignment problem.

a) NWCR c) LCM b) VAM d) Row Minima

9. The assignment problem is said to be unbalanced if ______

a) number of rows is greater than number of columns.

b) number of rows is lesser than number of columns.

c) number of rows is equal to number of columns.

d) both a and b

- 10. The occurrence of degeneracy while solving a transportation problem means that
- a) total supply equals total demand
- b) the solution so obtained is not feasible
- c) the few allocations become negative

d) none of the above

SECTION – B

Answer any FIVE Questions

 $(5 \times 2 = 10)$

11. Define Operation Research.

12. What are the requirements for employing LPP technique?

13. In Graphic method, when will you say that a LPP has infinite number of optimal solutions?

- 14. State purpose of Slack variable. Give an example.
- 15. When does degeneracy occur in transportation problem?
- 16. What is an assignment problem?

17. Distinguish between Assignment problem and Transportation problem.

SECTION – C

 $(5 \times 5 = 25)$

18. a) Explain the scope of Operation Research

Answer ALL Questions

b) What are the limitations of Operation Research? Explain

19. a) A paper mill produces two grades of papers namely X and Y. Because of raw material restrictions, it cannot produce more than 400 tonnes of grade X and 300 tonnes of grade Y in a week. There are 160 production hours in a week. It requires 0.2 and 0.4 hours to produce a ton of products X and Y respectively with corresponding profits of ₹ 200 and ₹ 500 per ton. Formulate the above as a LPP to maximize the profit.

[OR]

b) Krishna Dairy manufactures three products Cheese, Paneer and Butter which gives a profit of $\mathbf{\overline{\xi}}$ 12, $\mathbf{\overline{\xi}}$ 3 and $\mathbf{\overline{\xi}}$ 1 per kg. Manufacturing 1kg of cheese requires 10 labour hours, Paneer requires 2 labor hours and Butter requires 1 hour of labor. Pasterization hour requirement is 7 hours, 3 hours and 2 hours respectively, whereas packaging hour requirement hour is 2 hours, 4 hours and 1 hour respectively for Cheese, Panner and Butter. Company has total 100 hours of labor, 77 hours for pasteurization and 80 hours of packaging. Formulate the above as a LPP to maximize the profit.

20. a) Find all basic solutions to the following LPP

Max Z = p + 3q + 3rSubject to p + 2q + 3r = 42p + 3q + 5r = 7 $p, q, r \ge 0$

[OR]

b) Express the following LPP in canonical form. Max Z=2x+3y+z $4x - 3y + z \le 6$, $x+5y-7z \ge -4$ and x, $z \ge 0$, y is unrestricted

21. a) Find Initial Basic Feasible solution using Vogel's Approximation Method

				S	upply
	5	7	13	10	200
	8	6	14	13	900
	12	10	9	11	800
Demand	200	600	700	400	
		[(DR]		

b) Find Initial Basic Feasible solution using North West Corner rule

					S	upply
	5	8	6	6	3	800
	4	7	7	6	5	800
	8	4	6	6	4	900
Demand	400	400	500	400	800	

22. a) Explain Hungarian method to solve assignment problem.



b) Solve the following assignment problem

120	100	80	90
80	90	110	70
110	140	120	100
90	90	80	90

<u>SECTION – D</u> <u>Answer any THREE Questions</u>

 $(3 \times 10 = 30)$

23. What are the phases of OR? Explain

24. Solve the LPP by Graphical method

Max Z = 3x + 2y

subject to

 $-2x + y \le 1$

 $x \leq 2$

x + y≤3

x,y ≥0

25. Solve by simplex method	
Max Z = 20p + 6q + 8r	
subject to	
$8p + 2q + 3r \le 250$	
4p + 3q ≤ 150	
2p + r ≤ 50	
p, q, r ≥ 0	
26. Solve the following Assignment Problem	

16	13	17	19	
14	12	13	16	
14	11	12	17	
5	5	8	8	
5	3	8	8	

27. Solve the following Transportation Problem

				Supply
	50	30	220	1
	90	45	170	3
	250	200	50	4
Demand	4	2	2	

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25. Solve by simplex method Max Z = 20p + 6q + 8rsubject to $8p + 2q + 3r \le 250$ $4p + 3q \le 150$ $2p + r \le 50$ p, q, r ≥ 0 26. Solve the following Assignment Problem

16	13	17	19
14	12	13	16
14	11	12	17
5	5	8	8
5	3	8	8

27. Solve the following Transportation Problem

				Supply
	50	30	220	1
	90	45	170	3
	250	200	50	4
Demand	4	2	2	

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10CT11



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Core Course: First Semester: Paper – I

PROGRAMMING IN C

Under CBCS and LOCF – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions

 $(10 \times 1 = 10)$

- 1. C Language developed at?
- a) Bell Laboratories of USA in 1972
- b) AT & T's Bell Laboratories of USA in 1970
- c) Sun Microsystems in 1973
- d) Cambridge University in 1972
- 2. Identify the wrong statement.
- a) putchar(65); b) putchar('x'); c) putchar("x"); d) putchar(); 3. Which header file is essential for using strcmp() function? a) string.h b) strings.h c) text.h d) strcmp.h 4. Which function is used to display the information? a) printf () b) gets() d) get() c) scanf() 5. Recursion is a process in which a function calls _ a) itself b) another function c) main () function d) sub program 6. The operator & is used for a) Bitwise AND b) Bitwise OR c) Logical AND d) Logical OR

7. Identify the most appropriate sentence to describe the unions_____

a) unions contain members of different data types which share the same storage area in memory

b) unions are like structures

c) unions are less frequently used in the program

d) unions are used for set operations

8. Structure is a_____

a) scalar data type		b) derived da	b) derived data type		
c) both a and b		d) primitive of	d) primitive data type		
9. This function	n used to detect the	end of file is			
a) fclose()	b) ferror()	c) fputs()	d) fgetch()		
10. A file open	ed in r mode can be				
a) read AND	write	b) only read			

c) only write d) only close

$\underline{SECTION - B}$

Answer any FIVE Questions

 $(5 \times 2 = 10)$

- 11. What is keyword in C? Give an example.
- 12. What is the usage of for loop in C?
- 13. Comment on array.
- 14. What do you mean by recursion?
- 15. Write any three usages of pointer in C.
- 16. What is an Infinite loop?
- 17. What is Union in C?

<u>SECTION – C</u>

 $(5 \times 5 = 25)$

18. a) Define variables. State various rules for framing a variable. **[OR]**

b) Write short notes on different data types in C Programming.

19. a) Write a C program to find sum of all elements in an array,

[OR]

b) Explain different basic string operations with example.

20. a) Define function and explain advantage of using function in C.

[OR]

b) Explore function without argument and with return value with simple example in C.

21. a) Write short note on structure in C programming.

[OR]

b) Discuss array of structures in C programming with example.

22. a) Explain declaration of pointers and its advantages in C.

[OR]

b) Write a C program to read name and marks of n number of students from user and store them in a file.

<u>SECTION – D</u>

Answer any THREE Questions

Answer ALL Questions

 $(3 \times 10 = 30)$

- 23. Discuss different looping statements with example.
- 24. Discuss on benefits of arrays. Explain one dimensional array and twodimensional array with examples.
- 25. Write a C program to calculate and factorial of a given number using a recursive function.
- 26. Define union. How data elements are stored under unions, explain with example?
- 27. Describe Input and Output Operations of a file in C.

10CT12



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Core Course: First Semester: Paper – II

DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION

Under CBCS and LOCF – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions

 $(10 \times 1 = 10)$

1. The NOR gate output will be high if the two inputs are

a) 0,0	b) 0,1	c) 1,0	d) 1,1
, ,		, ,	, ,

2. Which of the examples below expresses the commutative law of multiplication?

c) $A \cdot (B \cdot C) = (A \cdot B) \cdot C$ d) $A \cdot B = B \cdot C$

3. Which is the major functioning responsibility of the multiplexing combinational circuit?

a) Decoding the binary information

b) Generation of all minterms in an output function with OR-gate

c) Generation of selected path between multiple sources and a single destination

d) Encoding of binary information

4. How many AND gates are required for a 1-to-8 multiplexer?

a) 2 b) 6 c) 8 d) 5

5. Which of the following flip-flops is free from race around problem?

a) T flip-flop b) S-R flip-flop c) J-K Flip-flop d) D Flip-flop

6. Based on how binary information is entered or shifted out, shift registers are classified into _____ categories. a) 2 b) 3 c) 4 d) 5 7. During the execution of a program which gets initialized first? a) MDR b) IR c) PC d) MAR 8. A processor performing fetch or decoding of different instruction during the execution of another instruction is called _____ a) Super-scaling b) Pipe-lining c) Parallel Computation d) None of the mentioned 9. The type of control signal is generated based on _____ a) contents of the step counter b) Contents of IR c) Contents of condition flags d) All of the mentioned 10. The DMA transfers are performed by a control circuit called as

a) Device interfacec) Data controller

b) DMA controllerd) Overlooker

 $(5 \times 2 = 10)$

<u>SECTION – B</u>

Answer any FIVE Questions

11. Convert $(1056)_{16}$ to an octal number.

- 12. Draw circuit Diagram for NAND gate.
- 13. What is an Encoder?
- 14. Comment on Don't Care Condition
- 15. What is Flip Flop?
- 16. Define Register
- 17. What do you mean by Hardwired control logic unit?

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) Explain Excess-3 and Gray code with an example.

[OR]

b) Summarize various types Number System with an example.

- 19. a) Illustrate the following basic laws of Boolean Algebra
 - i) Commutative law ii) Associative law iii) Distributive law

[**OR**]

- b) Demonstrate 8x1 Multiplexer with neat diagram.
- 20. a) Explain JK Flip Flop with its circuit diagram.

[**OR**]

b) Explain RS Flip Flop with its circuit diagram.

21. a) Compare Stack and Queue.

[OR]

b) Discuss on Bus Structures of a system.

22. a) Summarize an Addressing modes of a digital system.

[OR]

b) Explain major processing units in a computer system.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 23. Explain Basic Logic Gates with its diagram & Truth Tables.
- 24. Describe Decoders and Basic Binary decoders.
- 25. Explain following shift registers explain
 - i) SISO ii) SIPO
- 26. Describe Functional Units of a digital system.
- 27. Discuss on DMA controller.

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10CT31



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Core Course: Third Semester: Paper – I

COMPUTER NETWORKS

Under CBCS and LOCF – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions			$(10 \times 1 = 10)$	
1 is	used as a medium of co	ommunication ur	nder water.	
a) Wave	b) Light	c) Sound	d) Music	
2	_ layer decides which p	hysical path the	data should take.	
a) Network	b) Transport	c) Physical	d) Data Link	
3. The frames	which are intimated for	receiving are cal	led	
a) sending wi	ndow	b) receiving v	vindow	
c) sender		d) receiver		
4. A software t	hat allows a personal co	mputer to preter	nd it as a terminal is	
a) auto diallir	ıg	b) bulletin bo	ard	
c) modem		d) terminal emulation		
5. Which of the	following divides the high	n-speed signal into	o frequency bands?	
a) T switch		b) Time divis	ion multiplexer	
c) Frequency	Division Multiplexer	d) Code Divis	sion Multiplexer	
6. A significan	t challenge of the Under	water Sensor No	etwork is	
a) Rain		b) Lightning		
c) Thunder		d) Limited Ba	attery Power	

7. All of the parts in a computer talk to each other by sending _ a) digital signals b) smoothly varying signal waves c) analogue signals d) light 8. The most efficient medium for ATM is _____ a) twisted pair b) optical fibre c) coaxial cable d) the atmosphere 9. A medium access control technique for multiple access transmission media is _____ a) attenuation b) aloha c) amplitude d) carrier 10. Which of the following TCP/IP protocol is used for remote terminal connection service? a) TELNET c) FTP d) UDP b) RARP

<u>SECTION – B</u>

<u>Answer any FIVE Questions</u> $(5 \times 2 = 10)$

11. What is Computer Networking?

12. List out any four Network Topology.

13. Define Multiplexing.

14. Comment on concept of Message Switching.

15. List out Design issues of Data Link Layer.

16. What do you mean by Routing?

17. Why do we use Digital Signature?

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) Explain different types of Network Hardware.

[OR]

b) Summarize the usage of Computer Networks.19. a) Explain PSTN .

[OR]

b) Compare Circuit Switching and Packet Switching.

20. a) Illustrate the Cyclic Redundancy Check error detection technique.

[OR]

b) Explain an elementary data link protocol for Noise Channel.21. a) Describe the design issues of Network layer.

[OR]

b) Classification of IP Address.

22. a) Summarize the Domain Name System.

[**OR**]

b) Classify the different types of Cryptography algorithm.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

23. Explain OSI reference model in Data Communication and Networks.

- 24. Identify Guided Transmission Media for Data Communication.
- 25. Illustrate Sliding Window protocol for Data Communication.
- 26. Interpret the Transmission Control Protocol with neat diagram.
- 27. Describe Electronic Mail architecture and services.

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10CT32



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Core Course: Third Semester: Paper – II

COMPUTER GRAPHICS

Under CBCS and LOCF – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions

 $(10 \times 1 = 10)$

The property of emitting light for a period of time after the CRT beam stops emission is called______
 a) Phosphorescence b) Resolution c) Persistence d) Aspect Ratio
 The encoding of the raster image as a set of rectangular areas is called _____

```
a) Run length b) cell encoding c) digitizing d) spooling
```

3. _____ is defined as a set of points that are all at a given distance r

from a center position (x, y)

a) Rectangle b) Curve c) Circle d) Spline

4. To apply the midpoint method, we define

a)?circle(x,y) =
$$x^2 + y^2 - ?r$$
?² b)?circle(x,y) = $x + y^2 - ?r$?²

c)?circle(x,y) =
$$x^2 - y^2 - ?r$$
?² d)?circle(x,y) = $x^2 + y^2 - ?2$?²

- 5. Polygons are translated by adding ______ to the coordinate position of each vertex and the current attribute setting
- a) straight line path b) translation vector
- c) differences d) all the above

6	is a transformation	that produces a	a mirror image	of an object
		1	U	5

a) Reflection	b) Rotation	c) Scaling	d) Shear
---------------	-------------	------------	----------

7. Coordinates of the window are known as _____

a) screen coordinates	b) world coordinates
c) device coordinates	d) Cartesian coordinates
8 is applied to input coordinat	tes to produce a variety of alignments
a) Positioning methods	b) constraints
c) grids	d) gravity field

9. In which projection, the plane normal to the projection has equal angles with three axes______a) Wireframeb) constructive solid geometry

c) isometric		d) perspectiv	e
10	is the device	is the device code for a Trackball	
a) 1	b) 10	c) 6	d) 5

<u>SECTION – B</u>

Answer any FIVE Questions

 $(5 \times 2 = 10)$

- 11. What do you mean by resoultion?
- 12. Compare pixmap and bitmap.
- 13. Comment on uniform scaling.
- 14. What do you mean by Window-Viewport transformation?
- 15. What is rubber band technique?
- 16. What do you mean by dragging?
- 17. Distinguish between parallel projection and perspective projection.

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) Describe the role of frame buffer in displaying an image.

[OR]

b) Write a note on Hard copy devices.19. a) Explain DDA line Drawing Algorithm.

[OR]

b) Explain various area fill attributes.

20. a) Prove that uniform scaling and rotation makes a commutative pair of operations.

[OR]

b) Discuss on Window-Viewport transformation.

21. a) Classify the interactive input devices based on input modes.

[OR]

b) Explain the concept of graphics tablets.

22. a) Discuss on composite transformations.

[OR]

b) Write a note on 3D rotation.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

23. Explain bresenham's line drawing algorithm. And find the pixels between the points (0,0) to (6,7) to draw a line.

24. Derive the transformation matrix for Reflection based on the line y=mx+c.

- 25. Explain Sutherland Hodgeman Polygon clipping algorithm.
- 26. Describe various Interactive Picture Construction techniques.
- 27. How do you achieve realism in three-dimensional graphics? Explain

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10CT51



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Core Course: Fifth Semester: Paper – I

PYTHON PROGRAMMING

Under CBCS and LOCF – Credit 4

Time: **3** Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions $(10 \times 1 = 10)$ 1. How many keywords present in the python programming language? a) 32 b) 61 c) 33 d) 27 2. What do we use to define a block of code in Python language? a) Key b) Brackets c) Indentation d) None of these 3. Which of the following functions is a built-in function in python language? a) val() b) print() c) print() d) None of these 4. How we can convert the NumPy array to the list in python? a) list(array) b) list.array c) array.list d) None of the above 5. Which of the following counts the number of elements in Numpy array? a) count() b) return() d) size() c) shape() 6. Which of the following thing can be data in Pandas? a) a python dict b) a ndarray c) a scalar value d) All of the above 7. A model of language consists of the categories which does not include a) System Unit b) structural units c) data units d) empirical units

8. Which function is used in the below program

txt = "Hello, welcome to my world."

x = txt.find("welcome")

print(x)

a) len() b) index() c) find() d) join ()

9. Which method is used to return the string in lower case.

a) lower() b) strip() c) upper() d) replace ()

10. Which of the following is the right method through which we can create an empty tuple in our Python program?

a) Empty_Tuple = Null b) Empty_Tuple =

c) Empty_Tuple = () d) Empty_Tuple = 0

<u>SECTION – B</u>

 $(5 \times 2 = 10)$

 $(5 \times 5 = 25)$

Answer any FIVE Questions

11. List the types of errors that occur in a program.

12. What is a statement?

13. State the term 'flow of execution'.

14. Comment on 'traversal'.

15. Define split function with example.

16. Define histogram.

17. Write the steps to open a text file.

<u>SECTION – C</u>

Answer ALL Questions

18. a) Elucidate Python programming as a high-level language.

[OR]

b) Define variable. Discuss on variable representation in Python.

19. a) Demonstrate the execution of a function using function call.

[OR]

b) Summarize recursion with example.

20. a) Distinguish between encapsulation and generalization.

[OR]

b) Explain for loop with example.

21. a) Compare and contrast aliasing and cloning in lists. **[OR]**

b) What are tuples? Explain tuple assignment with example.

22. a) Illustrate hints with example.

[OR]

b) Demonstrate the procedure for creating a text file with an example.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

23. Explain: i) Arithmetic operators in Python. ii) Data types in Python.

24. Explain Math functions and Boolean functions with example.

25. What is compound datatype? Elucidate any three string operations with example.

26. Explain lists. Classify the various operators that can be performed on lists.

27. Discuss briefly on dictionaries.

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10CT52



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Core Course: Fifth Semester: Paper – II

JAVA PROGRAMMING

Under CBCS and LOCF – Credit 4

Time: **3** Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions $(10 \times 1 = 10)$ 1. Wrapper class is a wrapper around a _____ data type a) normal b) central c) primitive d) concrete 2. Which of the tool is used to compile java code? b) javac c) javacompute d) javaend a) java 3. Methods having same name and differ type signature are called methods a) overriding b) over read c) super d) overloading 4. The data or variables, defined within a class are called ______ variables. a) object b) class c) instance d) schema 5. Which of these keywords is used by a class to use an interface defined previously? b) imports c) implements d) implement a) import 6. Inheritance allows _____ of sub classes a) creation b) updation d) display c) view

7. The methods wait() and notify() are defined in?

a) java. lang. String b) java.lang.Object

c) java.lang.Runnable d) java.lang.Thread

8. Which of the following is NOT an example of a data type?

a) int b) public c) Button d) void

9. An ______ is a special kind of Java program that is designed to be transmitted over the internet.

a) viewlet b) applet c) servlet d) object10. Which of these Exceptions is thrown by remote method?a) Remote Exception b) Input Output Exception

c) Remote Access Exception d) Remote Input Output Exception

<u>SECTION – B</u>

 $(5 \times 2 = 10)$

Answer any FIVE Questions

11. Define Inheritance.

12. What is Encapsulation?

- 13. What is the basic form of a Class definition?
- 14. Find the use of Subclass Constructor.
- 15. What is a Package?

16. Define Multithreaded program.

17. Find out the difference between Local applet and Remote applet.

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) Explain Application of OOP.

[OR]

b) Illustrate different types of Constants in Java with Examples.19. a) Explain most Commonly used String methods in Java.

[OR]

b) Outline Overriding methods with a suitable example.20. a) Classify Java System Packages and their Classes.

[OR]

b) Explain the procedure for Creating and Accessing a Package.21. a) Explain complete Life cycle of a Thread.

[OR]

b) Summarize common Java Exceptions.22. a) Classify various sections of Web Page.

[OR]

b) How applets differ from Applications? Explain

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 23. Identify the Different types of Operators with examples.
- 24. Develop a java program for the Application of Classes and Objects.
- 25. Construct a java program for Implementing Interfaces.
- 26. Develop a Java program for use of Priority Thread.
- 27. Summarize the steps involved in Applet Life cycle.

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10CT53



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Core Course: Fifth Semester: Paper – III

SOFTWARE ENGINEERING

Under CBCS and LOCF – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions

 $(10 \times 1 = 10)$

- 1. What is the first step in the software development lifecycle?
- a) System Design b) Coding
- c) System Testing d) Preliminary Investigation and Analysis

2. Which of these is not defined in the Software Requirement Specification?

a) Functional requirements

c) Known Requirement

- c) Goals of Implementation d) A
- d) Algorithms

3. Which of the following is a non-functional requirement?

- a) What does the system do? b) '
- b) When does the system do it?

b) Non-functional requirements

- c) Where does the system do it? d) How well does the system do it?
- 4. Consider a system where a heat sensor detects an intrusion and alerts the security company. What kind of a requirement the system is providing?
- a) Functional b) Non-Functional
 - d) None of the mentioned

5. _____ represent the architecture as an organized collection of program components.

a) framework modelsb) structural modelc) dynamic modeld) process model

6. _____ design is equivalent to the floor plan of a house a) Architectural design b) Component-level design c) Data design d) Interface design 7. In which environment is the Alpha testing performed? a) User's end b) Developer's end c) User's and developer's end d) None of these 8. _____ defines the term failure? a) A human action that produces an incorrect result b) deviation from a specified behavior c) Found in the software; the result of an error d) It is procedure in a computer database. 9. Which software project sizing approach develop estimates of the information domain characteristics? a) Function point sizing b) Change sizing c) Standard component sizing d) Fuzzy logic sizing 10. A process that involves prioritizing risks for further action or analysis by assessing the impact and the probability of occurrence is called_ a) Qualitative Risk Analysis b) Risk Brainstorming c) Quantitative Risk Analysis d) Risk Retrospective

Answer any FIVE Questions	$(5 \times 2 = 10)$
11. Define task.	
12. What is feasibility study?	
13. What is process dimension?	
14. What is archetype?	
15. Define graph matrix.	
16. Comment on "product specific risks".	
17. Define risk identification.	
<u>SECTION – C</u>	
Answer ALL Ouestions	$(5 \times 5 = 25)$

SECTION – B

18. a) Write short notes on waterfall model.

[**OR**]

b) Summarize the formal methods model.

19. a) Interpret the structure of Software Requirements Document.

[OR]

b) Classify the check types carried out during requirements validation process.

20. a) Outline the quality guidelines used during the software design process.

[OR]

b) Compare and contrast functional and non-functional requirements.

21. a) Elaborate on black box testing.

[OR]

b) Explain flow graph notation with illustrations.

22. a) Exemplify FP-based estimation with example.

[**OR**]

b) Explain risk identification during project development.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 23. Discuss any two common evolutionary process models.
- 24. Explain the requirements elicitation and analysis process. Discuss any two activities in detail.
- 25. Categorize the architectural styles used in software engineering.
- 26. Explain Unit Testing and Integration testing.
- 27. Describe the COCOMO II estimation model.

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10EP5A



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B.Sc. Comp. Science Degree (Semester) Examinations, November 2022

Part – III: Elective Course: Fifth Semester: Paper – I

CLOUD COMPUTING

Under CBCS and LOCF – Credit 4

Time: 3 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions

$(10 \times 1 = 10)$

- 1. Which of the following is the working models for cloud computing?
 - b) Configuring Model
- c) Collaborative Model d) All of the above
- 2. What is Cloud Foundry?

a) Deployment Models

- a) A factory that produces cloud components
- b) An industry wide PaaS initiative
- C. Mware-led open-source PaaS
- d) None of the above
- 3. The main tool for migrations in VMware's arsenal is VMotion state.

a) True	b) False	c) Can't say	d) May be
4. The overhe	ad associated with	staff is a n	najor cost.
a) Data Cent	er	b) IT	
c) non-IT		d) All of the r	nentioned
5. What is the	most important area	of concern in cloud	computing?
a) Security		b) Scalability	

c) Storage d) None of the mentioned

6. A _____ cloud requires virtualized storage to support the staging and storage of data.

a) softb) computec) locald) none of the mentioned7. Cloud providers provide cloud services to the cloud users.

a) True b) False c) May be d) Can't say

8. Communication between services is done widely using _____ protocol.

a) REST b) SOAP c) RESTful d) None of the mentioned

9. The SDP defines the following with respect to the service_____

A) Service-level requirements

b) Service design and topology

c) Service and operational management requirements

d) all of the above

10. Which of the following subject area deals with pay-as-you-go usage model?

a) accounting management

b) compliance d) all of the mentioned

c) data privacy

<u>SECTION – B</u>

Answer any FIVE Questions

 $(5 \times 2 = 10)$

- 11. Comment on Cloud Computing
- 12. List types of virtualizations.
- 13. What are the different types of cloud?
- 14. Define on demand pricing. What do you mean by on demand pricing?
- 15. Write any 3 disadvantages of cloud service development.
- 16. List out the challenges of cloud migration.
- 17. Mention few services offered by AWS.

<u>SECTION – C</u>

Answer ALL Questions

 $(5 \times 5 = 25)$

18. a) What are the various models of cloud computing? Explain it.

[OR]

b) List & explain the advantages of cloud computing.19. a) Draw cloud architecture and explain it.

[OR]

b) List different types of virtualizations with example.

20. a) Mention various services of cloud implementation.

[OR]

b) Write short note on cloud pricing model.

21. a) Write a note on IBM smart cloud.

[OR]

b) Describe about salesforce.com

22. a) Discuss organization security policy.

[**OR**]

b) Write a note on Key management and encryption.

<u>SECTION – D</u>

Answer any THREE Questions

 $(3 \times 10 = 30)$

- 23. Describe various cloud types.
- 24. Explain about seven-step model of cloud migration.
- 25. What are the layers in cloud implementation and standards?
- 26. Describe Amazon web services.
- 27. Summarize Cloud security and migration strategies.

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B.A. & B.Sc. Degree (Semester) Examinations, November 2022 Part - IV: Generic Elective Course: First Semester: Paper - I

INTRODUCTION TO INFORMATION TECHNOLOGY

Under CBCS and LOCF - Credit 2

Time: 2 Hours

Max. Marks: 75

SECTION – A

Answer ALL Questions

 $(10 \times 1 = 10)$

1. Information is

c) Adding machine

4.82) WAN stands for

a) wire and network

c) digital object model

3. Website is a collection of

a) audio files b) video file

c) widely accessible network

- a) a collection of data b) a processed data c) a text data d) an audio/video data
- 2. The first calculating device is called
- a) Multiplying machine b) Analytical engine
 - d) ABACUS
 - c) image file d) html file

 - b) wire accessible network
 - d) wide area network
- 5. DOM is an acronym for _
- a) document object model b) document object metrics
 - d) digital object metrics
- 6. C, C++, Java, Python all are the examples of
- a) high-level language b) low-level language c) assembly language d) all are true

7. A source program is written in

a) high level language	b) English language	Answer ALL Questions	$(3 \times 0 - 27)$
c) machine language	d) symbolic language	Answer ALL Questions	$(3 \times 9 = 21)$
8. Computer performs calculations		18. a) Briefly discuss about the input device and o [OR]	output device
 a) in accurately c) 1 million decimals 9. The actual machinery in a company a) machinery) b) hardware 10. First generation computers use a) cathode ray tube c) printers 	 b) accurately d) 2 decimals uter is called the c) software d) instruments b) typewriter d) paper tapes 	 b) Explain the followings: i) Web page ii) website iii) browse 19. a) Explain about the computer with types. [OR] b) Briefly explain about computer network with 20. a) Explain about the memory with types. [OR] b) Discuss briefly about storage media in a complexity of the storage	r h types.
Answer any FIVE Questions	$(5 \times 2 = 10)$		
11. Expand ALU and USB		<u>SECTION – D</u>	
12. Expand CD and DVD		Answer any TWO Questions	$(2 \times 14 = 28)$
13. List out the any four web brows	sers?	21. Explain the functional unit in a computer.	
14. What is Software?22. Discuss briefly about23. Explain the usage of		22. Discuss briefly about the keyboard description23. Explain the usage of IT in Different fields.	ns in a computer system?

- 15. What is Multimedia?
- 16. Define internet.
- 17. Type of memory in computer.

BBBBB

24. Explain the different types of operating system?

<u>SECTION – C</u>



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B.Sc. Comp.Science Degree (Semester) Examinations, November 2022 Part – IV: Skill Based Course: Fifth Semester: Paper – I COMPETITIVE EXAMINATION FOR IT Under CBCS and LOCF – Credit 2

Time: 2 Hours

HAND HEART HEAD

Max. Marks: 75

SECTION – A

Answer ALL Questions

 $(75 \times 1 = 75)$

1. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What			
is the probab	ility that the ticket d	lrawn has a number wh	hich is a multiple of 3 or 5?
a) 1/2	b) 2/5	c) 8/15	d) 9/20
2. A bag cont	tains 2 red, 3 green	and 2 blue balls. Tw	vo balls are drawn at
random. Wł	nat is the probabili	ty that none of the ba	alls drawn is blue?
a) 10/21	b)2/7	c) 7/2	d) 21/10
3. In a box, th	here are 8 red, 7 bl	ue and 6 green balls.	One ball is picked up
randomly. V	What is the probab	ility that it is neither	red or green?
a) 1/3	b) 3/1	c) 5/8	d) 4/3
4. What is the	e probability of get	tting a sum 9 from tw	vo throws of a dice?
a) 1/6	b) 1/8	c) 1/9	d) 1/12
5. Three unbiased coins are tossed. What is the probability of getting at most			
two heads?			
a) 3/4	b) 1/4	c) 3/8	d) 7/8
6. Four dice are thrown simultaneously. Find the probability that all of them			
show the same face:			
a) 1/216	b) 1/36	c) 4/216	d) 3/216

7. Find odd man out 3, 5, 11, 14, 17, 21

a) 21	b) 11	c) 14	d) 21
8. Find odd r	man out 8, 27, 64, 1	100, 125, 216, 343	
a) 27	b) 100	c) 125	d) 343
9. Find odd r	nan out 10, 25, 45,	54, 60, 75, 80	
a) 45	b) 10	c) 54	d) 80
10. Find odd	man out 396, 462,	572, 427, 671, 264	
a) 396	b) 427	c) 572	d) 264
11 A parson	arossos a 600 m la	na straat in 5 minuta	. What is his a

11. A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?

a) 3.6 b) 7.2 c) 8.4 d) 10

12. An aeroplane covers a certain distance at a speed of 240 kmph in 5hours.To cover the same distance in 1 hours, it must travel at a speed of

a) 300 kmph b) 300 kmph c) 300 kmph d) 300 kmph

13. Look at this series: 7, 10, 8, 11, 9, 12, ... What number should come next?

a) 7 b) 10 c) 12 d) 13

14. Look at this series: 53, 53, 40, 40, 27, 27, ... What number should come next?

a) 12 b) 14 c) 27 d) 53

15. Which of the following diagrams indicates the best relation between Author, Lawyer and Singer?



16. Which of the following diagrams indicates the best relation between Travellers, Train and Bus?



17. Which of the following diagrams indicates the best relation between Profit, Dividend and Bonus



26. Arrange the words given below in a meaningful sequence.					
I. Income	II. Status	III. Education	IV. Well-bei	ng V. Job	
a) 3,1,5,2,4	b) 1,3,2,	5,4 c) 1	,2,5,3,4	d) 3,5,1,2,4	
27. Arrange the words given below in a meaningful sequence					
I. Leaves	II. Branch	III. Flower	r IV. Tree	V. Fruit	
a) 4,3,1,2,5	b) 4,2,5,1,	3 c) 4	,3,2,1,5	d) 4,2,1,3,5	
28. HEART=	@8531; FEA	AST= #8541; FA	RTHEST=?		
a) #541@831	1 b) #831@	¢541 c) (@541#831	d) #531@841	
29. 5% of 5%	of ₹ 100 is				
a) ₹ 25	b) ₹ 0.50) c)₹	10	d) ₹ 0.25	
30. 77% of 64	=?				
a) 47.28	b) 49.28	c) 4	8.29	d) 49.27	
31. If today is	Friday, what	t day of the will	it be 100 days	from today?	
a) Monday	b) Sunda	у с) Т	Tuesday	d) Wednesday	
32. $(489+375)^2 - (489-375)^2 / (489*375) = ?$					
a) 4	b) 5	c) 4	0	d) 52	
$33. \left(\frac{(963+476)^2+(963-476)^2}{(963\times476)}\right) = ?$					
a) 4	b) 5	c) 6	i	d) 2	
34. In a certain code Languages 461 means 'where are you', 169 means 'you					
are good' and 8652 means 'flowers are not bad'. How will 'where not are					
good flowers' be written in that code Language?					

a) 68954	b) 46598	c) 45698	d) Data inadequate
35. 7:12 is eq	uivalent to		
a) 28:40	b) 42:71	c) 42:72	d) 72:42

36. If C=3 and POLISH=79, then POINTER=?							
a) 98	b) 97	c) 96	d) 95				
37. If 'blue' means 'green', 'green' means 'white', 'white' means 'yellow',							
'yellow' means 'black', 'black' means 'red' and 'red' means 'brown', that							
what is color	of 'Blood'?						
a) yellow	b) Green	c) Brown	d) Black				
38. The L.C.M	I of number is 2,4,	32,8 find the value					
a) 32	b) 65	c) 60	d) 63				
39. The L.C.M	l of two number is	12,30=?					
a) 58	b) 60	c) 62	d) 64				
40. The L.C.M	l of two number is	2,13=?					
a) 15	b) 25	c) 26	d) 28				
41. Ram is the	brother of Arun. S	Sana is the sister of Ti	ina. Arun is the son of				
Sana. How is	Ram related to Sa	ana?					
a) Brother	b) Uncle	c) Son	d) Father				
42. Pointing towards a day, Veena said, "He is the son of the only son of my							
grandfather."	How is that boy r	elated to Veena?					
a) Uncle	b) Brother	c) Cousin	d) None				
43. A man walks 5km east, turns left & walks another 5 km. Again, he takes							
a left turn & walks 5km. Which direction on is he facing now?							
a) WEST	b) EAST	c) SOUTH	d) NORTH				
44. 2√9025=?							
a) 85	b) 75	c) 95	d) 90				
45. √125=?							
a) 10	b) 5	c) 25	d) 15				

46. Doctor:: Patient::Politician::?

a) Voter	b) Cł	nair			с) Money	d) Public
47. Find the mi	issin	g LI	ETTI	ER f	or th	ne giv	ven box?	
	В	С	Е	G	Κ	Μ		
	v	v	V	т	D	2		
	1	1	v	T	1	÷		
a) L	b) S				с) N	d) O
48. The hexade	ecim	al nı	ımbe	er C	3 co	nvert	to binary numl	per is
a) 1111	b) 11(0011			с) 111100	d) 11000011
49. Find odd m	an c	out						
a) April	b) Jur	ne			с) September	d) May
50. Find odd m	an c	out:						
a) oracle	b) bas	sic			с) pascal	d) cobol
51. Which of the	e fol	lowii	ng co	mpu	ter la	angua	age is written in b	binary codes only?
a) pascal	b) ma	chin	e lai	ngua	.ge	c) C	d) C#
52. Which sym	bol	will	be o	n th	e fac	e op	posite to the fac	ce with symbol *?
@ _ *		*	+		*	+	\$ +	
a) @	b) \$				с) 8	d) +
53. Two positions of dice are shown below. How many points will appear on								
the opposite t	o th	e fac	e co	ntai	ning	5 po	ints?	
a) 3	b) 1				с) 2	d) 4
54. He always_			1	to pi	ove	that	the earth revolv	es round the sun.
a) tried	b) trie	es	-		с) was trying	d) is trying
55. He saw me by chance and the car.						-		
a) stop	b) stopped				с) stops	d) was stopping	

Read the passage carefully then answer the following questions

Harry who is a professional had a fearful dream. He found himself in a land where he saw some slug-like animals with tentacles living on human bodies. The people tolerated these creatures because after many years they would grow into bulls which then be used for transportation. Harry noticed that he himself was covered with these creatures and he woke up screaming.

56. In the dream, Harry found the creatures

a) in his office b) in a different land c) in his kitchen d) in a different planet 57. what did the creatures look like? b) insects with wings a) slug-like animals with horns c) insects with tentacles d) slug-like animals with tentacles 58. Harry's dream was fearful because a) It brought him face to face with elephants b) He found himself on a land full of snakes c) He forgets the way home d) He saw creatures feeding on human bodies 59. The creatures will grow into bulls which then will be used for a) digging b) hunting c) transportation d) flying 60. Harry woke up a) dancing b) screaming d) singing c) thinking 61. _____ Indus River is the longest river in India. a) The b) An c) A d) None of the above 62. Peter went to _____ United States to spend holidays. a) the b) a c) either A or B d) no article 63. The car travelled 150 kilometres hour. b) an c) a d) no article a) the 64. I saw a _____ of cows in the field. b) herd d) flock a) group c) swarm

65. The Earth moves round the Sun.

a) simple past		b) past perfect		
c) simple present		d) past future pe	erfect	
66. Rain falls fr	rom the cloud.			
a) past continu	ious	b) future continuous		
c) simple pres	ent	d) present continuous		
67. The train ha	d left.			
a) past perfect		b) past continuo	ous	
c) past future		d) simple preser	nt	
68. It will rain s	soon.			
a) simple past		b) simple preser	nt	
c) past future		d) simple future		
69. Suganya is t	typing.			
a) simple past		b) simple present		
c) present continuous		d) past perfect		
70. I shall visit	the book fair tomorro	W.		
a) simple past		b) simple preser	nt	
c) simple future		d) future continuous		
71. It is very ho	t today?			
a) isn't it?	b) wasn't?	c) was it?	d) is it?	
72. Suganya wi	ll not come today?			
a) shall she? b) will she?		c) won't she?	d) none of these	
73. Indian team	has beaten the Austr	alian team.		
a) does it? b) hasn't it?		c) has it?	d) is it?	
74. None of the	food was wasted.			
a) wasn't it? b) isn't it?		c) was it?	d) is it?	
75. Let us play.				
a) can we?	b) do we?	c) shall we?	d) shalln? t we?	

RERE



VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

College with Potential for Excellence

Residential & Autonomous – A Gurukula Institute of Life-Training Re-accredited (3rd Cycle) with 'A' Grade (CGPA 3.59 out of 4.00) by NAAC [Affiliated to Madurai Kamaraj University]

B.Sc. Comp.Science Degree (Semester) Examinations, November 2022 Part – IV: Skill Enhancement Course: Third Semester: Paper – I OPERATING SYSTEM

Under CBCS and LOCF – Credit 2

Time: 2 Hours

Max. Marks: 75

<u>SECTION – A</u>

Answer ALL Questions

 $(10 \times 1 = 10)$

- 1. What is an operating system?
- a) interface between the hardware and application programs
- b) collection of programs that manages hardware resources
- c) system service provider to the application programs
- d) all of the mentioned
- 2. Which of the following is not an operating system?
- a) Windows b) Linux c) Oracle d) DOS
- 3. CPU fetches the instruction from memory according to the value of
- a) program counter

c) instruction register

- b) status register
- d) program status word
- 4. The page table contains _____
- a) base address of each page in physical memory

b) page offset

- c) page size
- d) none of the mentioned

- 5. In operating system, each process has its own _____
- a) address space and global variables
- b) open files
- c) pending alarms, signals and signal handlers
- d) all of the mentioned
- 6. What is the ready state of a process?
- a) when process is scheduled to run after some execution
- b) when process is unable to run until some tasks has been completed
- c) when process is using the CPU
- d) none of the mentioned
- 7. What is a reusable resource?
- a) that can be used by one process at a time and is not depleted by that use
- b) that can be used by more than one process at a time
- c) that can be shared between various threads
- d) none of the mentioned
- 8. Which one of the following is the deadlock avoidance algorithm?
- a) banker's algorithm
- b) round-robin algorithm
- c) elevator algorithm d) karn's algorithm
- 9. What is an operating system?
- a) interface between the hardware and application programs
- b) collection of programs that manages hardware resources
- c) system service provider to the application programs
- d) all of the mentioned
- 10. CPU scheduling is the basis of _____
- a) multiprogramming operating systems
- b) larger memory sized systems
- c) multiprocessor systems
- d) none of the mentioned

<u>SECTION – B</u>

$(5 \times 2 = 10)$

- 11. What is meant by an operating system?
- 12. Define memory
- 13. List out any 4 operating system

Answer any FIVE Questions

- 14. Give any two advantages of single contiguous memory allocations
- 15. Expand: a) FIFO b) CPU
- 16. What is the function of job scheduler?
- 17. Define deadlock

<u>SECTION – C</u>

Answer ALL Questions

 $(3 \times 9 = 27)$

18. a) State the resource manager function

[OR]

- b) Explain memory management and its functions
- 19. a) Explain about single contiguous memory allocation

[**OR**]

b) write about static partition specification

20. a) summarize the life cycle of process with neat diagram

[OR]

b) Explain about job scheduling using shortest job first

<u>SECTION – D</u>

Answer any TWO Questions

$(2 \times 14 = 28)$

- 21. Explain about processor management and device management functions.
- 22. Write about relocatable portioned memory management
- 23. Discuss on job scheduling and its functions
- 24. Write short notes on deadlock and its avoidance





- 16. Enumerate on any five tools in flash and give their functions?
- 17. Explain in detail with a neat diagram the steps involved in implementing types of tweening in flash?

CCAG10



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College with Potential for Exc	ellence
Residential & Autonomous – A Gurukula Institu	ute of Life-Training
[Affiliated to Madurai Kamaraj Univ	/ersity]
HAND LEAD B.A., B.Sc., B.Com. & B.Com. (CA) Degree (Semester) Ex	aminations, November 2022
Time: 2 Hours CERTIFICATE COURSES) Max. Marks: 50
SECTION – A	
Answer ALL Questions	$(10 \times 1 = 10)$
1. The meaning of DTP is	
2. What is the shortcut key for Duplicate layer a file?	
3. Adobe Photoshop is aApplication software.	
4. The full form of EPS is	
5. JPEG Stands for	
6. CMYK Stands for	
7. PDF Stands for	
8. CCW Stands for	
9. What is the shortcut key for new layer a file?	
10.Graphics is divided in to parts.	
<u>SECTION – B</u>	
Answer ALL Questions	$(4 \times 5 = 20)$
11.a) How to create a document in Photoshop?	
[OR]	
b) Difference between Word Processing and DTP	
12.a) Discuss about red eye removal in Photoshop	
[OR]	
b) How to making color adjustment in Photoshop.	
13.a) Explain about Background Eraser Tool	
[OR]	
b) Explain about Use of colors.	
14.a) Write explain about Type Masking	
[OR]	
b) Discuss about the Use of DTP	
<u>SECTION – C</u>	
Answer any TWO Questions	$(2 \times 10 = 20)$
15. Briefly explain about Toolbox and List out one by one?	
16. How to create visiting card with example.	

CCDP10

17. Give a brief explains about the File Format in Photoshop?



CCHP10

16. Enumerate on UNORDERED LIST in HTML.

17. Explain in detail about how to create a FORM in HTML.

REBER

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College with	Potential for Excellence
Residential & Autonomous	3 – A Gurukula Institute of Life-Training ¹ A' Grade (CGPA 3 59 out of 4 00) by NAAC
(Affiliated to M	1adurai Kamaraj University]
B.A., B.Sc., B.Com. & B.Com.(CA)	Degree (Semester) Examinations, November 2022
Time: 2 Hours CERTI	FICATE COURSES Max. Marks: 50
SECTION	$\mathbf{N} - \mathbf{A}$
Answer ALL Questions	$(10 \times 1 = 10)$
1. Who is founder of C language?	
2. List out any 4 C tokens	
3. What is meant by Enum?	
4. How to declare a variable in C?	
5. Give any two-backslash character in C	
6. How to assign value to a variable?	
7. Define operator	
8. If $a=5$, what is the answer of this expression $a+=$	5?
9. If a[5], how many items are received from the us	er?
10.List out looping statements in C	
SECTIO	N _ B
Answer ALL Questions	$(4 \times 5 - 20)$
Answer ALL Questions	$(4 \times 3 - 20)$
11.a) Write short notes on basic structure of C progr	ram
b) Explain about basic data types in C	
12.a) Explain about scanf function	
b) Explain about printf function	
13.a) Write a C program to check given number is o	odd or even
b) Explain about simple if else statement with ex	ample
14.a) Explain about for loop with example	
[OR]	
b) Explain about do while loop with example	
SECTION	$\underline{N-C}$
Answer any TWO Questions	$(2 \times 10 = 20)$
15. write short notes on C tokens	
16. Discuss about operators in C	
17. Explain about one dimensional array with examp	ole
RBR	RR

5

CCPC10